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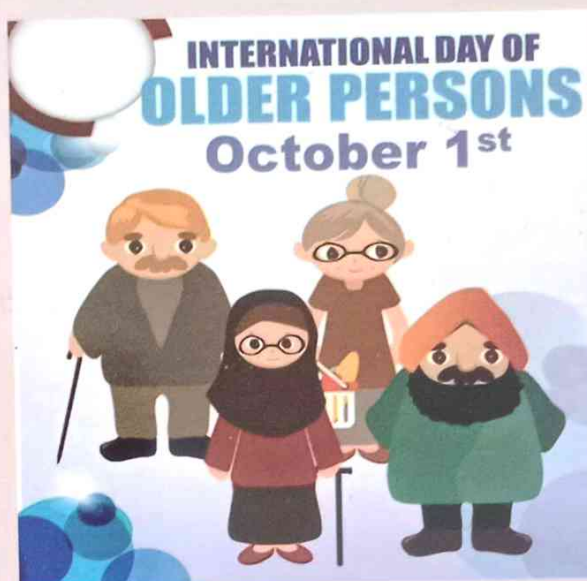
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KNOWLEDGE REGARDING ESTIMATION OF PERCENTAGE OF BURNS AMONG II YEAR B.Sc NURSING STUDENTS IN NARAYANA NURSING INSTITUTIONS AT NELLORE



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Abstract: The extent of injury is best described using the percentage of the total body surface area (%TBSA) that is affected by a burn. The measurement of burn surface area is important during the initial management of people with burns for estimating fluid requirements and determining need for transfer to a burns service.

Objectives: 1. To assess the knowledge regarding estimation of percentage of burns among II Year B.Sc nursing students. 2. To find out the association between knowledge regarding estimation of percentage of burns among II Year B.Sc nursing students with their selected socio demographic variables.

Materials and methods: The descriptive research design was used to conduct research study. The 30 II Year B.Sc Nursing students were selected by using non probability convenience sampling technique in Narayana Nursing Institutions at Nellore. Informed consent was obtained from students. Structured questionnaire was used to collect the data. The collected data was analysed by using descriptive and inferential statistics. **Result:** The result reveals that, with regard to knowledge regarding estimation of percentage of burns among II Year B.Sc nursing students, 9 (30%) had good knowledge, 14 (47%) had average knowledge and 7 (23%) had poor knowledge. **Key words:** Knowledge, Burns, TBSA, Nursing Students.

INTRODUCTION: According to WHO, A Burn occurs when some or all of the different layers of cells in the skin are destroyed by a hot liquid (scald), a hot solid (contact burns) or a flame (flame burns). Burns pose a serious global public health problem with over 195000 deaths annually from fire related burns alone. Skin injuries due to ultraviolet radiation, radioactivity, electricity or chemicals, as well as respiratory damage resulting from smoke inhalation, are also considered to be burns. If deaths due to scalds, electrical burns and other forms of burns were considered, the death toll would be much higher. Fire-related deaths are the 15th leading cause of death for children and young adults aged 5–29 years.

First-degree burns affect only the outer layer of the skin. Second-degree burns damage the epidermis and the layer beneath it. Third-degree burns involve damage or complete destruction of the skin to its full depth and damage to underlying tissues. People who experience such burns often require skin grafting. Full thickness burns that continue are known as fourth degree burns and they typically destroy everything including fat, muscle and even bone. The fourth degree burn is usually characterized by black damage to the body affected, severe disfigurement and scarring and in extreme cases a need for amputation if limited to a limb. This type of severe burn can be fatal.

Three ways of calculating percentage burns.

TBSA burns can quickly estimate the total body surface area of a burn by using the “rule of nines” in adults. In babies and young children, different percentages are used because the ratio of the combined surface area of the head and neck to the surface area of the limbs is typically larger in children than that of an adult.

Burn percentage in adults: Rule of nine, a method of estimating the extent of body surface that has been burned in an adult, dividing the body into sections of 9 per cent or multiples of 9 per cent.

Anatomic structure	Surface area	
	Adults	Children
Anterior Head	4.5%	8.5%
Posterior Head	4.5%	8.5%
Anterior torso	18%	18%
Posterior torso	18%	18%
Each Anterior arm	4.5%	4.5%
Each Posterior arm	4.5%	4.5%
Each Anterior leg	9%	6.5%
Each Posterior leg	9%	6.5%
Genitalia/perineum	1%	8.5%

Infants <10kg

Anatomic structure	Head and neck	Anterior torso	Posterior torso	Each leg	Each arm	Genitalia/perineum
Surface area	20%	16%	16%	16%	8%	1%

Rule of palms: Palmar surface-the surface area of a patient's palm (including fingers) is roughly 0.8% of total body surface area. Palmar surface area can be used to estimate relatively small burns (< 15% of total surface area) or very large burns (> 85%, when unburnt skin is counted).

Lund and Browder chart. Burns covering more than 15% of total body surface area in adults and more than 10% in children warrant formal resuscitation. Again these are guidelines, and experienced staff can exercise some discretion either way. The most

commonly used resuscitation formula is the Parkland formula, a pure crystalloid formula. It has the advantage of being easy to calculate and the rate is titrated against urine output. This calculates the amount of fluid required in the first 24 hours. Children require maintenance fluid in addition to this. The starting point for resuscitation is the time of injury, not the time of admission. Any fluid already given should be deducted from the calculated requirement. At the end of 24 hours, colloid infusion is begun at a rate of $0.5 \text{ ml} \times (\text{total burn surface area} (\%)) \times (\text{body weight (kg)})$ and maintenance crystalloid (usually dextrose-saline) is continued at a rate of $1.5 \text{ ml} \times (\text{burn area}) \times (\text{body weight})$. The end point to aim for is a urine output of 0.5-1.0 ml/kg/hour in adults and 1.0-1.5 ml/kg/hour in children

Need for the Study: American Burns Association (2015), Burn injuries continue to be one of the leading causes of unintentional death and injury in the United States. Between 2011 and 2015, approximately 486,000 fire or burn injuries were seen at Emergency Departments. In 2016 alone, there were 3,390 civilian deaths from fires, which include 2,800 deaths from residential structure fires, 150 deaths from non-residential structure fires 355 from vehicle fires, and 85 from outside and unclassified fires other than structure or vehicle fires. One civilian fire death occurs every 2 hours 35 minutes. The lifetime odds of a U.S. resident dying from exposure to fire, flames or smoke are 1 in 1,498. The primary causes of burn injury include fire-flame, scalds, contact with hot object, electrical and chemicals. Nine out of ten people seen at emergency departments for fire or burn injuries in 2011-2015 were treated and released. Males are more likely to be burned than females (68% males and 32% females were seen at a burn unit). Almost one-quarter (24%) of all burn injuries occur in children under the age of 15.2.

STATEMENT OF THE PROBLEM: A study to

assess the knowledge regarding estimation of percentage of burns among II Year B.Sc Nursing students in Narayana Nursing Institutions at Nellore.

OBJECTIVES

➤ To assess the level of knowledge regarding estimation of percentage of burns among II Year B.Sc nursing students.

➤ To find out the association between the level of knowledge regarding estimation of percentage of burns among II Year B.Sc nursing students with their selected socio demographic variables.

MATERIALS AND METHODS: A quantitative research approach and descriptive research design was used to assess the knowledge regarding estimation of percentage of burns among II year B.Sc nursing students in Narayana Nursing Institutions at Nellore. The sample includes all II Year B.Sc nursing students in Narayana Nursing Institutions at Nellore. 30 II Year B.Sc nursing students were selected by using non probability convenience sampling technique. 29 structured questionnaires were developed to assess the knowledge regarding estimation of percentage of burns. Each correct answer was given by score '1' and wrong answer by score '0'. The score interpretation was >75% Good knowledge, 55-75% Average knowledge and <50% Poor knowledge. The data was analyzed and tabulated by using descriptive and inferential statistics based on objectives of the study.

RESULT AND DISCUSSION:

Table no-1: frequency and Percentage distribution of level of knowledge regarding estimation of percentage of burns among II Year B.Sc nursing students (n=30)

Level of knowledge	Fre(f)	Per (%)
Good knowledge	9	30
Average knowledge	14	47
Poor knowledge	7	23
Total	30	100

Table no-1: Shows that with regard to level of knowledge regarding estimation of percentage of burns among II Year B.Sc nursing students, 9 (30%) had good knowledge, 14 (47%) had average knowledge and 7 (23%) had poor knowledge.

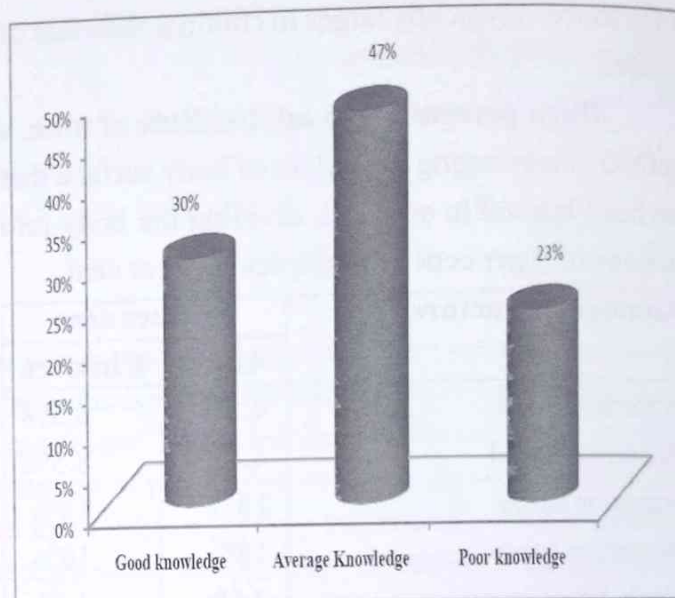


Fig no-1: Percentage distribution of level of knowledge regarding estimation of percentage of burns.

There is a significant association between the level of knowledge regarding estimation of percentage of burns among II Year B.Sc Nursing Students with their selected demographic variables like source of information and CNE programmes. There is no association between the demographic variables like age and year of course.

NURSING IMPLICATION

Nursing Practice

➤ Nursing practice should develop proper skills on knowledge regarding estimation of percentage of burns injuries among II Year B.Sc nursing students.

Nursing Education

➤ Nursing education helps the student to develop more insight on new knowledge regarding estimation of percentage of burns.

➤ Education programmes should emphasize more on teaching of students to improve their knowledge on estimation of percentage of burns.

Nursing Administration

➤ In service education/workshop/CNE on knowledge regarding estimation of percentage of burns to improve students knowledge.

➤ Nursing administration should develop certain plans and policies to be implemented to improve the knowledge regarding estimation of percentage of burns.

Nursing Research

➤ The essence of research is to build up skills and knowledge on estimation of percentage of burns injuries among nursing students.

➤ Extensive researches can be carried out to assess the knowledge regarding the estimation of percentage of burns.

➤ The findings of the study can be disseminated through the print journals as well as electronic journals.

Recommendations: On the basis of the findings of the study recommendations are.

➤ A similar study can be replicated as a large sample to generalize findings.

➤ A similar study can be done in different settings.

CONCLUSION: the study concluded that majority of II Year B.Sc nursing students had Average knowledge about estimation of percentage of burns. As a research investigator need to conduct CNE programmes/Workshops/Conferences to develop knowledge about the estimation of burns percentage in clinical settings.

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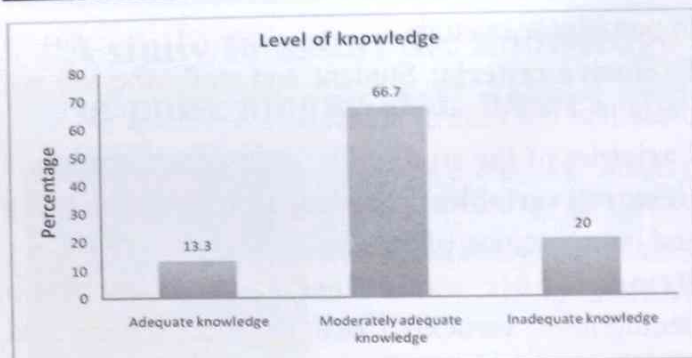


Fig 2: Frequency and percentage distribution of level of knowledge regarding recording and interpretation of pulse among nursing students.

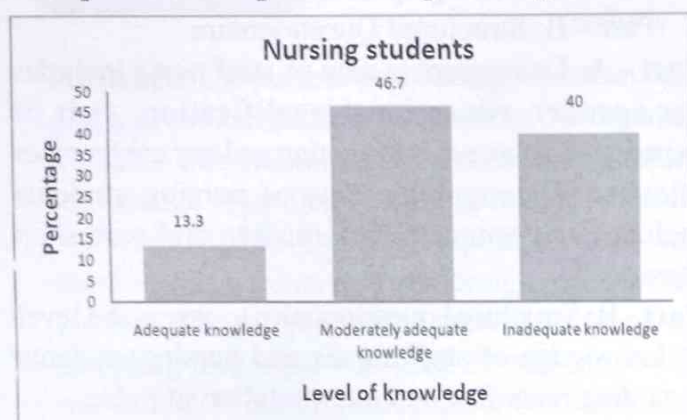


Table 1: Comparison of level of knowledge regarding recording and interpretation of pulse among staff nurses and nursing students (n=30)

Level of knowledge	Staff nurses		Nursing students	
	F	%	F	%
Adequate knowledge	4	13.3	4	13.3
Moderately adequate knowledge	20	66.7	14	46.7
Inadequate knowledge	6	20	12	40
Total	30	100	30	100

Table No: 1 Shows that 13.3% staff nurses and 13.3% student have adequate knowledge, and 66.6% staff nurses and 46.6% nursing students have moderate knowledge and 20% staff nurses and 40% nursing students have inadequate knowledge regarding recording and interpretation of pulse.

Table 2: comparison of mean knowledge score and standard deviation between staff nurses and nursing students (n=30)

Group	Mean	Standard deviation
Staff nurses	20.1	2.8
Student nurses	18.46	3.9

Table 2 Shows that with regard to level of knowledge regarding interpretation of pulse for staff nurses and student nurses mean and standard deviation scores are 20.1; 2.8 and 18.46; 3.9 respectively.

There is a no-significant association between level of knowledge of staff nurses and socio demographic such as gender, attended any CNE Programme.

There is significant relationship between level of knowledge on recording and interpretation of pulse with age and source of information at $P=0.05$ and other demographic variables like year of course and information on recording and interpretation of pulse has no significance association.

CONCLUSION: The study concluded that majority of student nurses have inadequate knowledge regarding recording and interpretation of pulse while comparing to the level of knowledge of staff nurses regarding recording and interpretation of pulse. Hence there is a need to enhance clinical observational skills of nursing students by regular simulation exercises.

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